CLAIMS:

1. CSCT apparatus for examination of an object of interest, the CSCT apparatus comprising: a source of radiation; and a radiation detector array; wherein the source of radiation is adapted to generate a fan-shaped radiation beam; wherein the radiation detector array is asymmetrically arranged with respect to the fan-shaped radiation beam.

2. The CSCT apparatus of claim 1, wherein the radiation beam penetrates the object of interest in a slice plane; wherein the radiation detector array is arranged such that the slice plane intersects the radiation detector array at a side thereof.

3. The CSCT apparatus of claim 2, wherein the object of interest is displaced with respect to the slice plane along a scanning direction which intersects the slice plane at an angle; wherein a location where the slice plane intersects the radiation detector array is offset with respect to a geometrical center of the radiation detector array; wherein the location is offset from the geometrical center in the scanning direction.

4. The CSCT apparatus of claim 1, wherein the radiation detector array comprises a plurality of detector lines; wherein the fan-shaped radiation beam has a width of at least two detector lines of the plurality of detector lines when it impinges onto the radiation detector array after transmission through the object of interest.

5. The CSCT apparatus of claim 4, wherein a first part of the radiation detector array is used for a cone beam data acquisition and a second part of the radiation detector is used for scatter radiation measurements.

6. The CSCT apparatus of claim 1, wherein the source of radiation and the radiation detector array are rotatable around a rotational axis extending through an examination area for receiving the object of interest; wherein the source of radiation is

arranged opposite to the source of radiation during scanning; wherein the source of radiation generates a fan-shaped x-ray beam adapted to penetrate the object of interest in the examination area in a slice plane; wherein the radiation detector includes a plurality of detector lines each with a plurality of detector elements arranged in a line; wherein the plurality of detector lines are arranged parallel to the slice plane; wherein a primary radiation attenuated by the object of interest impinges on a first line of the plurality of detector lines; wherein the first line is not a second line of the plurality of detector lines; wherein the second line is extending close to the geometrical center of the radiation detector array.

7. The CSCT apparatus according to claim 5, wherein the first line is arranged with at a distance from the first line in a direction along which the object of interest is displaced with respect to the radiation detector array during scanning.

8. The CSCT apparatus of claim 5, wherein a third line of the plurality of detector lines measures a scatter radiation scattered from the object of interest; and wherein the third detector line is offset from the first detector line in a direction along which the object of interest is displaced with respect to the radiation detector array during scanning.

9. The CSCT apparatus of claim 5, wherein the first line is the last line of the radiation detector array in the direction along which the object of interest is displaced with respect to the radiation detector array.

10. Method of examining an object of interest, the method comprising the steps of energizing a source of radiation such that it generates a fan-shaped radiation beam; and measuring a primary radiation attenuated by the object of interest and a scatter radiation scattered by the object of interest by means of a radiation detector array which is asymmetrically arranged with respect to the fan-shaped radiation beam.

11. The method of claim 10, wherein the radiation beam penetrates the

object of interest in a slice plane; wherein the radiation detector array is arranged such that the slice plane intersects the radiation detector array at a side thereof; wherein the object of interest is displaced with respect to the slice plane along a scanning direction which intersects the slice plane at an angle; wherein a location where the slice plane intersects the radiation detector array is offset with respect to a geometrical center line of the radiation detector array; wherein the location is in the scanning direction at a distance from the geometrical center line.

12. The method of claim 10, wherein the radiation detector array comprises a plurality of detector lines; wherein the fan shaped radiation beam has a width of at least two detector lines of the plurality of detector lines when it impinges onto the radiation detector array after transmission through the object of interest such that a first part of the radiation detector array is used for a cone beam data acquisition and a second part of the radiation detector is used for scatter radiation measurements.

13. Computer program for operating a CSCT apparatus, wherein, when the computer program is executed on a processor of the CSCT apparatus, the computer program causes the CSCT apparatus to perform the following operation: energizing a source of radiation such that it generates a fan-shaped radiation beam; and measuring a primary radiation attenuated by the object of interest and a scatter radiation scattered by the object of interest by means of a radiation detector array which is asymmetrically arranged with respect to the fan-shaped radiation beam.